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FILE 'USPATFULL' ENTERED AT 16:51:30 ON 06 FEB 2002

CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> s carboxymethylcellulose or (carboxymethyl cellulose)

L1 63424 CARBOXYMETHYLCELLULOSE OR (CARBOXYMETHYL CELLULOSE)

=> s l1 and (cellulose II mercerizing agent)

L2 0 L1 AND (CELLULOSE II MERCERIZING AGENT)

=> s l1 and ((cellulose II)(p)merceriz?)

L3 12 L1 AND ((CELLULOSE II)(P) MERCERIZ?)

=> s l1 and ((cotton linter) and (softwood kraft) and (hardwood kraft) and wood)

L4 9 L1 AND ((COTTON LINTER) AND (SOFTWOOD KRAFT) AND (HARDWOOD KRAFT  
) AND WOOD)

=> d l3 1-12 ibib ab

L3 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:197976 CAPLUS

DOCUMENT NUMBER: 106:197976

TITLE: Optimization of the double mercerization of cellulose  
in the preparation of **carboxymethylcellulose**

AUTHOR(S): Isserlis, V. I.; Korokh, S. G.; Gorodnov, V. D.;  
Laz'yan, Yu. I.; Petrenko, V. A.; Davydov, V. I.

CORPORATE SOURCE: USSR

SOURCE: Plast. Massy (1987), (3), 10-11

CODEN: PLMSAI; ISSN: 0554-2901

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Statistical evaluation of the temp., aq. NaOH concn., and pressing ratio  
in 2-step **mercerization** of cellulose (I) gave regression  
equations for optimization of the d.p. and substitution degree of CM-  
**cellulose (II)** [9004-32-4] prepd. from the  
**mercerized I**. A max. substitution degree of II equal to 86.8 was  
attained at temp. in both **mercerization** steps 313K, aq. NaOH  
concn. in the 1st and 2nd step 261.1 and 135 g/L, resp., and pressing  
ratio in the 1st step 3.5. A max. d.p. of II equal to 684 was attained at  
following **mercerization** conditions: temp. 332.3K (1st step) and  
295.7K (2nd step), NaOH concn. 350 g/L (1st step) and 189.0 g/L (2nd  
step), and pressing ratio in the 1st step 2.5.

L3 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1986:151140 CAPLUS

DOCUMENT NUMBER: 104:151140

TITLE: **Carboxymethyl cellulose**

INVENTOR(S): Isserlis, V.; Gorodnov, V. D.; Afonin, A. L.;  
Avlastimov, L. P.; Asadov, Z. M.

PATENT ASSIGNEE(S): Moscow Institute of the Petrochemical and Gas Industry, USSR  
SOURCE: U.S.S.R. From: Otkrytiya, Izobret. 1986, (3), 95.  
CODEN: URXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	SU 1206280	A1	19860123	SU 1984-3754791	19840626
AB	CM-cellulose (I) is manufd. by <b>mercerization</b> of <b>cellulose</b> (II), carboxymethylation, ripening, drying, and grinding. The effectiveness of the process, I content in the end product, and particle size distribution are increased by carboxymethylation of II in the presence of an aq. soln. contg. 0.1-0.5% Na alkylbenzenesulfonate and 0.001-0.005% H2O-sol. Co salt.				

L3 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1984:456735 CAPLUS  
DOCUMENT NUMBER: 101:56735  
TITLE: **Carboxymethylcellulose**  
INVENTOR(S): Petrenko, V. A.; Prokof'eva, M. V.; Davydova, V. I.; Sal'nikova, D. V.; Gorodnov, V. D.; Isserlis, V. I.; Korokh, S. G.; Orlov, Yu. S.; Fanov, Yu. A.  
PATENT ASSIGNEE(S): All-Union Scientific-Research Institute of Synthetic Resins, USSR; Gubkin, I. M., Institute of the Petrochemical and Gas Industry, Moscow  
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1984, (15), 87.  
CODEN: URXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	SU 1087526	A1	19840423	SU 1981-3350845	19811110
AB	CM-cellulose (I) [9004-32-4] is prepd. by <b>mercerizing cellulose</b> (II) with a NaOH soln. and then squeezing out the liq. and grinding, alkylating the alk. II with Na monochloroacetate (III), and sepg. the desired product. The consumption of III is reduced, the yield of II increased and the prodn. wastes utilized by carrying out the alkylation with a mixt. of III and vat wastes from the purifn. stage of I in a ratio of 1:0.05-2. The <b>mercerization</b> can be carried out with vat wastes from the purifn. of I contg. 100-250 g/L waste salts and 200-300 g/L NaOH.				

L3 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1983:577722 CAPLUS  
DOCUMENT NUMBER: 99:177722  
TITLE: **Carboxymethyl cellulose**  
INVENTOR(S): Davydova, V. I.; Prokof'eva, M. V.; Petrenko, V. A.; Sal'nikova, D. V.; Shirokov, E. P.  
PATENT ASSIGNEE(S): All-Union Scientific-Research Institute of Synthetic Resins, USSR  
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1983, (26), 76.  
CODEN: URXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	SU 1028676	A1	19830715	SU 1981-3337921	19810903
AB	CM-cellulose (I) [9004-32-4] is prepd. by <b>mercerizing cellulose (II)</b> with an aq. NaOH soln. in the presence of an org. diluent, treating the alkali cellulose formed with an alkylating agent, ripening, and removing the product. Thus, H <sub>2</sub> O-sol. I with high viscosity is prepd. and the process simplified by <b>mercerizing II</b> for 40-60 min with a 300-500 g/L NaOH soln. in the presence of 1-2 parts EtOH or PrOH/1 part II.				

L3 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1970:134390 CAPLUS

DOCUMENT NUMBER: 72:134390

TITLE: Cellulose derivatives with ion-exchange properties

INVENTOR(S): Khusid, I. E.; Bezgudova, L. I.; Rubenis, M.

PATENT ASSIGNEE(S): Olaine Plant of Chemical Reagents

SOURCE: Fr., 7 pp.

CODEN: FRXXAK

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	FR 1578874	A	19690822	FR 1968-1578874	19680422
	SU 227315	T	19731026	SU 1967-1150438	19670422
PRIORITY APPLN. INFO.:				SU 1967-1150438	19670422
AB	CM-cellulose (I), DEAE-cellulose, and ECTEOLA- <b>cellulose (II)</b> , useful as ion exchangers, are prepd. in improved yields by treating cellulose with a NaOH soln. followed by etherification of the <b>mercerized</b> cellulose and dehydration. Thus, a mixt. of 100 g 65% aq. cellulose pulp and 330 ml 31% NaOH soln. was kept 30 min at 6-12.degree., treated with 67 ml 43% ClCH <sub>2</sub> CO <sub>2</sub> H for 20 min at 70-5.degree., cooled to 30.degree., 850 ml 10% aq. HOAc added, the mixt. adjusted to pH 4-5 with HOAc, filtered, washed with H <sub>2</sub> O, 2 l. 0.5N HCl added during 3 hr, washed with H <sub>2</sub> O until neutral, dehydrated with 800 ml abs. EtOH, and dried to give 69 g I with an exchange capacity of 0.5 mequiv/g cellulose. II was prepd. by carrying out the etherification with triethanolamine and epichlorohydrin.				

L3 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1964:485104 CAPLUS

DOCUMENT NUMBER: 61:85104

ORIGINAL REFERENCE NO.: 61:14883g-h,14884a

TITLE: Changes in the structure of cellulose in initial stages of esterification or etherification on the basis of x-ray diffractometry

AUTHOR(S): Petropavlovskii, G. A.; Vasil'eva, G. G.; Volkova, L. A.

SOURCE: Zh. Prikl. Khim. (1964), 37(9), 2008-16

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Me, carboxymethyl, and cellulose nitrate with a low degree of substitution were studied by x-ray diffractometry. The diffractograms indicated that Me cellulose (.gamma. = 64), prepd. by reaction with Me<sub>2</sub>SO<sub>4</sub> of cotton linters treated with a 12% NaOH soln., had a structure intermediate between those of cellulose I and **cellulose II**, while the initial NaOH-treated linters consisted entirely of cellulose I, i.e.

methylation to a low degree facilitated access of NaOH and expedited **mercerization**. Comparison of the diffractograms of linters **mercerized** with 18% NaOH and cellulose nitrate ( $\gamma = 23$ ) derived from the same linters showed that nitration altered the structure of cellulose I completely to that of **cellulose II**; i.e. nitration was equiv. to **mercerization** with an 18% NaOH soln. [the crystallinity ratios Cr, detd. according to Ant-Wuorinen (A. and Visapaa, CA 55, 20419f), were 0.49 and 0.47 for **mercerized** cellulose and cellulose nitrate, resp.]. Similar results were obtained for sulfite pulp, except that the structural changes on nitration were greater (Cr 0.40 and 0.26 for **mercerized** cellulose and cellulose nitrate, resp.). Linters **mercerized** with an 18% NaOH soln. and then carboxymethylated with  $\text{ClCH}_2\text{COOH}$  to  $\gamma = 5$  and 10.8 showed Cr values of 0.28 and 0.08, resp. Carboxymethylation produced greater structural changes in sulfite pulp than in cotton linters and greater structural changes in both types of cellulose than methylation. On freezing of a 6% NaOH soln. of Me cellulose ( $\gamma = 64$ ) from linters and of **carboxymethyl cellulose** ( $\gamma = 11$ ) from sulfite wood pulp, both dissolved in the NaOH soln. after the mixt. was thawed. The structure of the Me cellulose changed completely to one of the **cellulose II** type, while that of the **carboxymethyl cellulose** became less ordered than the structure of **cellulose II**.

L3 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1960:31427 CAPLUS  
DOCUMENT NUMBER: 54:31427  
ORIGINAL REFERENCE NO.: 54:6118i,6119a-c  
TITLE: The preparation of **carboxymethylcellulose**  
AUTHOR(S): Kirmaier, G.; Solomon, I.; Stadlmuller, R.; Mendel, Teodora; Dregolski, Eufrosina  
SOURCE: Consfatuire tehnico-stiint, a ind. usoare, 2-a, Bucharest (1957), (Culegere referate, Textile), 350-4  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB **Carboxymethylcellulose** (I) was prepd. in 2 stages. The first was the prepn. of alkali **cellulose** (II), the 2nd the interaction of II with  $\text{CH}_2\text{ClCO}_2\text{H}$  (III). II was prepd. by treating sheets of "KS cellulose" in the **mercerization** press with aq. NaOH varying from 228 to 400 g. NaOH/l. for 80 min. at 20.degree.. The sheets were pressed, and introduced into the Werner-Pleiderer defibrator and defibrated for 110 min. at 22-5.degree.. II was left in the defibrator 20 hrs. at 20.degree. for prematuration, and then a soln. of III was added. The reaction took 4 hrs., and the temp. was held at 35-40.degree. by circulation of warm  $\text{H}_2\text{O}$  through the double walls of the defibrator. I was pptd. as the U salt with  $\text{UO}_2(\text{NO}_3)_2$ . The ppt. was calcined and the amt. of substitution was detd. by the wt. of  $\text{U}_3\text{O}_8$ . The optimal conditions were: an alkali concn. of 350 g./l. of NaOH and a molar ratio cellulose/III of 1/3.

L3 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1958:18644 CAPLUS  
DOCUMENT NUMBER: 52:18644  
ORIGINAL REFERENCE NO.: 52:3329b-d  
TITLE: Structure of **carboxymethylcellulose** and its derivatives  
AUTHOR(S): Klimova, O. M.; Kristalinskaya, M. G.  
CORPORATE SOURCE: Lensovet Technol. Inst., Leningrad  
SOURCE: Zhur. Priklad. Khim. (1957), 30, 1421-4  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB The effect of a radical with a free  $\text{CO}_2\text{H}$  group on the reactivity of cellulose was investigated. **Carboxymethylcellulose** (I) was

prepd. by digestion of **cellulose (II)** with  $\text{CH}_2\text{ClCO}_2\text{H}$  + NaOH for 2 hrs. at 80-90.degree.. The product was pptd. with EtOH, dialyzed, and dried at 60.degree. giving I with  $\gamma = 63$ . I and II were acetylated and benzylated. II before acetylation was activated by **mercerizing** in 20% NaOH and aging 48 hrs. at 20.degree.; before benzylation it was **mercerized** in 45% NaOH and aged 24 hrs. at 20.degree.. I was activated by swelling in pyridine-H<sub>2</sub>O (9:1) before acetylation and in 45% NaOH before benzylation. The values of  $\gamma$  of I and II obtained by acetylation were 22.8 and 43 after 8 hrs. at 20.degree. and 52 and 147 after 1 hr. at 60.degree.. The corresponding values after benzylation were 22 of I and 66 of II. The activity of the remaining OH groups in I and II, detd. by tosylation, remained unchanged.

L3 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1957:41272 CAPLUS

DOCUMENT NUMBER: 51:41272

ORIGINAL REFERENCE NO.: 51:7711c-e

TITLE: Preparation and properties of low-substituted methyl and **carboxymethylcellulose**. I

AUTHOR(S): Nikitin, N. I.; Petropavlovskii, G. A.

SOURCE: Zhur. Priklad. Khim. (1956), 29, 1540-9

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 50, 14222d. Low-substituted methylcellulose (I) was prepd. by methylation with  $\text{Me}_2\text{SO}_4$ . The effect on the percentage of MeO and the degree of substitution (D. S.) of the following variables were detd.: the concn. of the **mercerizing** NaOH (6-35%) and of  $\text{Me}_2\text{SO}_4$  (0.5-15g./g. cellulose), degree of polymerization (420-1600) of the original cellulose, temp. (0-25.degree.) and the duration (0.25-6 hrs.) of bromination. The best conditions (15% MeO) were: 2 hrs. at 15.degree. with less than 1 mol. of  $\text{Me}_2\text{SO}_4$ /mol. of cellulose **mercerized** with 12-18% NaOH. Low-substituted Na **carboxymethyl-cellulose (II)** was prepd. by treating air-dry cellulose with a soln. of  $\text{CH}_2\text{ClCO}_2\text{H}$  (III) in NaOH so that 12-18% free NaOH remained after neutralization of III. The best conditions (Na content 2.95% and D. S. 23.5) were 4 hrs. at 40.degree. with 47% III. After swelling 15 min. at -5.degree. and freezing 15 min. at -15.degree. I and II were sol. in 6.5% NaOH and I was sol. in H<sub>2</sub>O (continuous mech. stirring improved the filtering properties). The sol. portion contained 29-31% MeO.

L3 ANSWER 10 OF 12 USPATFULL

ACCESSION NUMBER: 1999:3699 USPATFULL

TITLE: Treatment process for cellulosic fibers

INVENTOR(S): Sun, Tong, Neenah, WI, United States

De Yao, Yong, Neenah, WI, United States

Hu, Sheng-Hsin, Appleton, WI, United States

PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc., Neenah, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5858021		19990112
APPLICATION INFO.:	US 1997-939099		19970926 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-29343	19961031 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Diamond, Alan	
LEGAL REPRESENTATIVE:	Schenian, John R.	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	

LINE COUNT: 1656

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a process for treating cellulosic fibers using an alkali metal hydroxide. The process first prepares the cellulosic fibers as a high consistency mixture with water and then adds an alkali metal hydroxide. The high consistency process is quite efficient and has been found to produce cellulosic fibers that are essentially uniformly treated. Also disclosed is a handsheet prepared from the treated cellulosic fibers for use in disposable absorbent products.

L3 ANSWER 11 OF 12 USPATFULL

ACCESSION NUMBER: 90:65485 USPATFULL

TITLE: Modification of cellulose normally synthesized by cellulose-producing microorganisms

INVENTOR(S): Saxena, Inder M., Austin, TX, United States  
Roberts, Eric M., Austin, TX, United States  
Brown, Jr., R. Malcolm, Austin, TX, United States

PATENT ASSIGNEE(S): The University of Texas Board of Regents, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4950597		19900821
APPLICATION INFO.:	US 1988-198784		19880525 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Griffin, Ronald W.		
ASSISTANT EXAMINER:	Webber, Pamela S.		
LEGAL REPRESENTATIVE:	Arnold, White & Durkee		
NUMBER OF CLAIMS:	16		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	21 Drawing Figure(s); 7 Drawing Page(s)		
LINE COUNT:	1217		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention involves a process for screening for and isolating spontaneously occurring or induced cellulose II-producing microorganisms. The process comprises a series of steps in various embodiments. Initially, cellulose-producing microorganisms from a first culture are plated out on a nutrient agar plate. The nutrient agar plate is then incubated to facilitate formation of colonies from single microorganisms. Samples of liquid nutrient medium are then inoculated with microorganisms from colonies having a smooth configuration, as compared to the usual rough colony configuration. The inoculated samples are then aerobically incubated to facilitate microorganism proliferation and pellicle formation. From these incubated samples are selected microorganisms, which, after a cultivation period, have proliferated but not formed a pellicle. Said selected microorganisms produce cellulose II instead of the cellulose I produced by pellicle-forming organisms.

L3 ANSWER 12 OF 12 USPATFULL

ACCESSION NUMBER: 86:18758 USPATFULL

TITLE: Cellulose derivative excellent in liquid absorbing property, process for preparing same and structure containing same

INVENTOR(S): Kamide, Kenji, Ikoma, Japan  
Okajima, Kunihiko, Takatsuki, Japan

PATENT ASSIGNEE(S): Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4579943		19860401
APPLICATION INFO.:	US 1984-666445		19841030 (6)

	NUMBER	DATE
	-----	-----
PRIORITY INFORMATION:	JP 1983-202703	19831031
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Griffin, Ronald W.	
LEGAL REPRESENTATIVE:	Finnegan, Henderson, Farabow, Garrett & Dunner	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Figure(s); 4 Drawing Page(s)	
LINE COUNT:	738	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is **carboxymethyl cellulose** or its salt derived from cellulose having a crystal form of cellulose II, wherein the total saturation degree <<F>> represented by the following formula:

<<F>>=<<f.sub.2 >>+<<f.sub.3 >>+<<f.sub.6 >>

wherein <<f.sub.2 >>, <<f.sub.3 >> and <<f.sub.6 >> represent the probabilities of substitution of substituent groups for OH groups located at the C.sub.2, C.sub.3 and C.sub.6 positions, respectively, of the glucose ring constituting the cellulose,

is in the range of from 0.10 to 0.64. This **carboxymethyl cellulose** or its salt is excellent in liquid absorbing property and is prepared by treating cellulose having a crystal form of cellulose II with an alkali and then reacting the treated cellulose with monochloroacetic acid or sodium monochloroacetate. This **carboxymethyl cellulose** or its salt can be used in the form of a structure such as a sheet, a woven fabric or a nonwoven fabric.

=> d 14 1-9 ibib ab

L4 ANSWER 1 OF 9 USPATFULL

ACCESSION NUMBER:	2001:21587 USPATFULL
TITLE:	Method for creping paper
INVENTOR(S):	Neal, Charles William, Cincinnati, OH, United States Forde-Kohler, Lois Jean, Cincinnati, OH, United States Salsman, Donald Arthur, West Chester, OH, United States
PATENT ASSIGNEE(S):	The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
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PATENT INFORMATION:	US 6187138	B1	20010213
APPLICATION INFO.:	US 1998-42936		19980317 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Fiorilla, Christopher A.		
LEGAL REPRESENTATIVE:	Glazer, Julia A., Rosnell, Tara M.		
NUMBER OF CLAIMS:	11		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	924		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing creped paper products comprising applying to a drying surface, a film-forming semi-crystalline polymer and a non-thermosetting cationic resin wherein the resin is characterized by a highly branched structure that lacks reactive intralinker functionality

and which has a prepolymer backbone comprised of intralinked polyamidoamine. The invention also comprises a method for producing creped paper products comprising applying to a drying surface a film-forming semi-crystalline polymer, a non-thermosetting cationic resin wherein the resin is characterized by a highly branched structure that lacks reactive intralinker functionality and which has a prepolymer backbone comprised of intralinked polyamidoamine, and an optional plasticizer.

L4 ANSWER 2 OF 9 USPATFULL

ACCESSION NUMBER: 2000:153131 USPATFULL  
TITLE: Modified cellulosic fibers and fibrous webs containing these fibers  
INVENTOR(S): Seger, Geoffrey Eugene, Cincinnati, OH, United States  
Mackey, Larry Neil, Fairfield, OH, United States  
Trokhan, Paul Dennis, Hamilton, OH, United States  
PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6146494		20001114
APPLICATION INFO.:	US 1998-87037		19980529 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-49457	19970612 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Chin, Peter	
LEGAL REPRESENTATIVE:	Hasse, Donald E., Roof, Carl J., Milbrada, Edward J.	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	1	
LINE COUNT:	3203	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are modified cellulosic fibers having a dry zero span tensile index that is substantially less than the dry zero span tensile index of the corresponding unmodified cellulosic fibers. Fibers having reduced dry zero span tensile may provide fibrous structures having improved hand feel compared with fibers prepared from unmodified fibers. In particular, such modified fibers provide fibrous structures with improved flexibility, which is perceived as improved softness. The reduced dry zero span tensile is preferably achieved by reacting the fibers with one or more cellulase enzymes and one or more debonders. The invention also relates to a fibrous structure having a density of not more than about 0.4 g/cc, wherein the fibrous structure comprises modified cellulosic fibers having a dry zero span tensile index that is at least about 15% less than the dry zero span tensile index of the corresponding unmodified cellulosic fibers; and wherein the fibrous structure has a bending modulus per unit dry tensile that is at least about 30% less than the bending modulus per unit dry tensile of a fibrous structure prepared from corresponding unmodified fibers.

L4 ANSWER 3 OF 9 USPATFULL

ACCESSION NUMBER: 2000:44177 USPATFULL  
TITLE: Process for producing creped paper products and creping aid for use therewith  
INVENTOR(S): Neal, Charles William, Cincinnati, OH, United States  
Forde-Kohler, Lois Jean, Cincinnati, OH, United States  
Salsman, Donald Arthur, West Chester, OH, United States  
PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)



	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6048938		20000411
APPLICATION INFO.:	US 1999-283074		19990331 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1997-996392, filed on 22 Dec 1997, now patented, Pat. No. US 5942085		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dawson, Robert		
ASSISTANT EXAMINER:	Peng, Kuo-Liang		
LEGAL REPRESENTATIVE:	Glazer, Julie A., Milbrada, Edward J., Huston, Larry L.		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	768		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing creped paper products comprising applying to a drying surface, a film-forming semi-crystalline polymer and a non-thermosetting cationic resin containing no secondary amine. The invention also comprises a method for producing creped paper products comprising applying to a drying surface a film-forming semi-crystalline polymer, a non-thermosetting cationic resin containing no secondary amines and an optional plasticizer.

L4 ANSWER 4 OF 9 USPATFULL

ACCESSION NUMBER: 1999:99233 USPATFULL  
 TITLE: Process for producing creped paper products  
 INVENTOR(S): Neal, Charles William, Cincinnati, OH, United States  
 Forde-Kohler, Lois Jean, Cincinnati, OH, United States  
 Salsman, Donald Arthur, West Chester, OH, United States  
 PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5942085		19990824
APPLICATION INFO.:	US 1997-996392		19971222 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Fortuna, Jose		
LEGAL REPRESENTATIVE:	Glazer, Julia A., Huston, Larry L., Linman, E. Kelly		
NUMBER OF CLAIMS:	17		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	803		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing creped paper products comprising applying to a drying surface, a film-forming semi-crystalline polymer and a non-thermosetting cationic resin containing no secondary amine. The invention also comprises a method for producing creped paper products comprising applying to a drying surface a film-forming semi-crystalline polymer, a non-thermosetting cationic resin containing no secondary amines and an optional plasticizer.

L4 ANSWER 5 OF 9 USPATFULL

ACCESSION NUMBER: 1999:48005 USPATFULL  
 TITLE: Latex-saturated paper  
 INVENTOR(S): Kronzer, Francis Joseph, Marietta, GA, United States  
 PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc., Neenah, WI, United States (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 5895557 19990420  
APPLICATION INFO.: US 1996-736349 19961003 (8)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Silverman, Stanley S.  
ASSISTANT EXAMINER: Fortuna, Jose S.  
LEGAL REPRESENTATIVE: Maycock, William E.  
NUMBER OF CLAIMS: 20  
EXEMPLARY CLAIM: 1  
LINE COUNT: 420

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A saturated paper suitable for use in a clean room environment, which paper includes a fibrous web in which at least about 50 percent of the fibers comprising the web, on a dry weight basis, are cellulosic fibers. The paper also includes a saturant which is present in the saturated paper at a level of from about 10 to about 100 percent, based on the dry weight of the fibrous web. The saturant, in turn, includes from about 98 to about 70 percent, on a dry weight basis, of a latex reinforcing polymer having a glass transition temperature of from about -40.degree. C. to about 25.degree. C.; and from about 2 to about 30 percent, on a dry weight basis, of a cationic polymer. The saturant is adapted to render the saturated paper durable, low linting, and ink jet printable.

L4 ANSWER 6 OF 9 USPATFULL

ACCESSION NUMBER: 97:46947 USPATFULL  
TITLE: Process for making soft creped tissue paper and product therefrom  
INVENTOR(S): Vinson, Kenneth D., Cincinnati, OH, United States  
Weisman, Paul T., Cincinnati, OH, United States  
Phan, Dean V., West Chester, OH, United States  
PATENT ASSIGNEE(S): The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5635028		19970603
APPLICATION INFO.:	US 1995-424835		19950419 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Chin, Peter		
LEGAL REPRESENTATIVE:	Hersko, Bart S., Linman, E. Kelly, Rasser, Jacobus C.		
NUMBER OF CLAIMS:	29		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1340		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Soft creped tissue paper products comprising papermaking fibers and a crepe facilitating composition are disclosed. The crepe facilitating composition comprises a bonding inhibitor, a cationic starch and a **carboxymethyl cellulose**. Preferably, the bonding inhibitor is a quaternary ammonium compound. The use of a bonding inhibitor, a cationic starch and a **carboxymethyl cellulose** results in a creped tissue paper that is both strong and soft. A creped papermaking process comprising the addition of the crepe facilitating composition is also disclosed. The crepe facilitating composition offers the potential to improve production capacity.

L4 ANSWER 7 OF 9 USPATFULL

ACCESSION NUMBER: 96:9194 USPATFULL  
TITLE: Strong and soft creped tissue paper and process for making the same by use of biodegradable crepe facilitating compositions  
INVENTOR(S): Vinson, Kenneth D., Cincinnati, OH, United States

PATENT ASSIGNEE(S): Weisman, Paul T., Cincinnati, OH, United States  
Phan, Dean V., West Chester, OH, United States  
The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5487813		19960130
APPLICATION INFO.:	US 1994-348434		19941202 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Chin, Peter		
LEGAL REPRESENTATIVE:	Hersko, Bart S., Linman, E. Kelly, Rasser, Jacobus C.		
NUMBER OF CLAIMS:	31		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1445		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Soft creped tissue paper products comprising papermaking fibers and a biodegradable crepe facilitating composition is disclosed. The crepe facilitating composition is a biodegradable bonding inhibitor, a cationic starch and a **carboxymethyl cellulose**. Preferably, the biodegradable bonding inhibitor is a biodegradable quaternary ammonium compound. The use of a biodegradable bonding inhibitor, a cationic starch and a **carboxymethyl cellulose** results in a creped tissue paper that is both strong and soft. A creped paper process comprising the addition of the crepe facilitating composition is also disclosed. The composition offers the potential to improve production capacity.

L4 ANSWER 8 OF 9 USPATFULL

ACCESSION NUMBER: 94:60011 USPATFULL  
TITLE: Process for making a hydraulically needled superabsorbent composite material and article thereof  
INVENTOR(S): McCormack, Ann L., Cumming, GA, United States  
Radwanski, Fred R., Roswell, GA, United States  
Everhart, Cherie H., Alpharetta, GA, United States  
PATENT ASSIGNEE(S): Kimberly-Clark Corporation, Neenah, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5328759		19940712
APPLICATION INFO.:	US 1991-786437		19911101 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Bell, James J.		
LEGAL REPRESENTATIVE:	Sidor, Karl V.		
NUMBER OF CLAIMS:	27		
EXEMPLARY CLAIM:	1,16		
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 10 Drawing Page(s)		
LINE COUNT:	1187		

AB Disclosed is a process of making an superabsorbent composite material which contains a hydraulically-needled fibrous web and superabsorbent materials. The method includes the steps of providing a nonwoven fibrous web; hydraulically needling the nonwoven web to enhance its liquid distribution properties; and introducing dry superabsorbent materials into intimate bonding contact with at least one surface of the hydraulically needled fibrous web. Also disclosed is the superabsorbent nonwoven composite material made by the described process. The hydraulically needled fibrous web component of the material may contain pulp fibers, synthetic fibers, natural fibers, bicomponent fibers, continuous filaments or mixtures thereof. The superabsorbent composite

material has a saturation capacity greater than about 500 percent and a wicking rate greater than about 12 centimeters per 15 minutes. The superabsorbent composite material may be used as a liquid management material in an absorbent product or absorbent structure.

L4 ANSWER 9 OF 9 USPATFULL

ACCESSION NUMBER: 93:78394 USPATFULL  
TITLE: Process for applying chemical papermaking additives from a thin film to tissue paper  
INVENTOR(S): Ampulski, Robert S., Fairfield, OH, United States  
Trokhan, Paul D., Hamilton, OH, United States  
PATENT ASSIGNEE(S): Procter & Gamble Company, Cincinnati, OH, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5246545		19930921
APPLICATION INFO.:	US 1992-936161		19920827 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Chin, Peter		
LEGAL REPRESENTATIVE:	Hersko, Bart S., Braun, Fredrick H.		
NUMBER OF CLAIMS:	21		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	1378		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a process for making soft tissue paper which includes providing a dry tissue web and then applying a sufficient amount of a chemical papermaking additive from a thin film to the dry web. The chemical papermaking additives are added to the surface of the tissue paper to enhance properties of the paper such as strength, softener, absorbency, and/or aesthetics. The chemical papermaking additive application process includes the steps of diluting the chemical papermaking additive with a suitable solvent, applying the diluted chemical solution to a heated transfer surface, evaporating the solvent from the dilute solution to form a film, and then transferring the film to the tissue by contacting the dry tissue web with the heated transfer surface. Preferably, the tissue web is dried to a moisture level below its equilibrium moisture content before application of the papermaking additive.

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(FILE 'HOME' ENTERED AT 16:50:03 ON 06 FEB 2002)

FILE 'CAPLUS, USPATFULL' ENTERED AT 16:51:30 ON 06 FEB 2002

L1 63424 S CARBOXYMETHYLCELLULOSE OR (CARBOXYMETHYL CELLULOSE)  
L2 0 S L1 AND (CELLULOSE II MERCERIZING AGENT)  
L3 12 S L1 AND ((CELLULOSE II) (P)MERCERIZ?)  
L4 9 S L1 AND ((COTTON LINTER) AND (SOFTWOOD KRAFT) AND (HARDWOOD KR